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**Annual Report on the Activities of the
ConnectME Authority**

**Report to the Maine State Legislature
Joint Standing Committee on Energy, Utilities and
Technology**



January 13, 2011

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2011 Annual Report on the Activities of the ConnectME Authority
Report to the Joint Standing Committee on Energy, Utilities and Technology
January 13, 2011

EXECUTIVE SUMMARY

In recognition of the critical importance of technology for education, health and business success in Maine, the Legislature created the ConnectME Authority (Authority) in 2006, to develop and implement its broadband strategy for Maine.¹ In 2007, the Legislature approved the Authority's major substantive rule that defines the state's broadband strategy and implementation process.

In 2009, the Legislature created the Broadband Strategy Council (BBSC) to help implement Maine's stated broadband strategy. The functions of the BBSC are: to advise the ConnectME Authority on opportunities available under the American Recovery and Reinvestment Act (Recovery Act); and to advise the University of Maine System with respect to matters pertaining to the lease or sale of excess broadband capacity of the educational broadband service (EBS).² One of the first round Recovery Act projects recommended by the BBSC to the Authority and Governor was awarded \$25.4 million for a middle mile-fiber ring project.

In 2010 the BBSC and Governor recommended six projects in the second round of federal Broadband Technology Opportunities Program (BTOP) grant competitions. Two of these were funded for \$2.8 million; the Washington County Education and Employment through Sustainable Broadband Adoption Project (WCEESBA) and the Maine Public Library Information Commons Project. WCEESBA addresses the underserved, unemployed and underemployed resident by providing education and training opportunities in healthcare, computer and Internet technology skills and cost effective and efficient fishing and farming operating methods, all through the use of broadband technology. The Maine Public Library Information Commons Project establishes or enhances public computer centers in 108 public libraries in Maine. The centers will provide broadband access, information and training to vulnerable populations. This project also establishes 11 additional video conferencing regional hubs to enhance training for librarians and patrons.

The goal of the Authority is to facilitate universal availability of broadband service and to increase the "take rate" or adoption to equal or greater than the national average. Increasing access and take rates is critical to Maine's education and economic prosperity. Nearly three years ago, approximately 86% of the state had access to high-

¹ PL 2005, c. 665, and PL 2008, c. 698.

² Resolve, Chapter 108, 124th Legislature, First Regular Session.

speed Internet service with an adoption rate of approximately 40%. In the three years since the Authority was established, broadband access or availability has risen to over 90% with 52% of Maine households subscribing to some type of broadband service (compared to 62% nationally).³

The Authority increased access and take rates through its efforts in identifying areas that do not have broadband access and then, to select projects for broadband expansion; administer the projects; and to provide funding, resources and incentives for the projects. To that end, the Recovery Act funds the comprehensive Broadband Mapping and Inventory project which facilitates a more proactive approach to funding infrastructure projects in unserved areas by designating those parts of the state that are unserved. The accompanying Planning Project provides benchmarking of the uses of broadband, the benefits and the drivers for greater adoption of broadband with a particular focus on the telemedicine industry sector.

The ConnectME Authority was awarded two supplemental Recovery Act funded broadband projects during the second round of grants in the later part of 2010. The Broadband Capacity Building Project will allow the Authority to partner with the State Planning Office to create a Broadband Capacity Building Task Force. The statistics and demographics collected through the Planning Project will be used to create a Broadband Capacity Building Plan. The second project, a Technical Assistance Project, involves the Department of Education leveraging the Maine Adult Regional Technology Initiative (MARTI) to increase digital literacy among Maine's most in need adults.

To meet these broadband goals, more work needs to be done. The Maine Development Foundation surveyed over 1,000 businesses in 2010 seeking responses as to what factors positively impact their businesses. High speed internet ranked as number one. It was also chosen as a top priority for the next governor.⁴ As important, continued work needs to be done to bring all levels of government and agencies together to work collaboratively to get the best results for Maine's future.

This report summarizes the Authority's activities; describes federal activities and initiatives; and outlines the Authority's ongoing activities.

In 2010, the Authority awarded its fourth and fifth round of grants, based on smaller, more focused proposals. The Authority suggested grant limits of \$100,000 per project, funding no more than 50% of the total project although many of the recent grants have been above our guidelines.

The following table summarizes all the Authority's grant activities to date:

³ ""Internet Access Services: Status as of June 30, 2009", Industry Analysis and Technology Division Wireless Competition Bureau, September 2010 (44). Note: The BTOP/BIP definition is advertised speeds of at least 768 kbps downstream and 200 kbps upstream to end users.

⁴ "Investment Imperative II: Survey with 1,000 Businesses"" Maine Development Foundation, February 2010 (11,13).

Grant Round/ Year	# of Grants	Grant Range	Total Grants	Total Project Amount	Household Availability	Increased Availability ⁵
1/2007	6	\$38K - \$370K	\$738,724	\$1.53 MM	13,800	2.5%
2/2008	5	\$45K - \$533K	\$1.44 MM	\$5.5 MM	9,000	1.6%
3/2009	8	\$43K - \$232K	\$609,860	\$1.23 MM	4,200	.7%
4/ 2010	23	\$23K - \$114K	\$886,000	\$1.3 MM	2,744	.5%
5/2010	16	\$7K-\$191K	\$1.52 MM	\$2.32 MM	3,137	.6%
Total	58	\$7K - \$533K	\$5.2 MM	\$12.3 MM	32,025	5.7%

The grant dollars per household availability is higher for the last two rounds and is expected to continue to rise, because the areas seeking broadband are becoming more difficult to serve and the projects are smaller.

The Authority's Executive Director continued work on the newly adopted "Act to Establish a Broadband Policy for Maine". The goal of the policy is universally available broadband in the state and that a secure, reliable and sustainable forward looking infrastructure meets future broadband needs.⁶

The Authority's Executive Director, in concert with stakeholders from across state government, the Legislature and private sector crafted legislation which created a new public utility category: dark fiber provider. A Broadband Sustainability Fund was created to support "last mile" high-speed Internet expansion to unserved areas.

In 2011, the Authority will:

- Complete the second phase of the NTIA BTOP funded comprehensive Broadband Mapping and Inventory Project which defines served and unserved areas of the state through an online interactive map;
- Complete the first phase of the NTIA BTOP funded Planning Project to provide benchmarking uses of broadband, the benefits and drivers for greater adoption and barriers to adoption;
- Complete the first phase of the supplementally funded NTIA BTOP Broadband Capacity Building Project to manage the creation and implementation of a Broadband Capacity Building Task Force and Plan;
- Complete the first phase of the supplementally funded NTIA BTOP Technical Assistance project designed to increase digital literacy among Maine's adult learners;

⁵ Based on the 2010 Census for estimates of population and number of households in Maine, obtained from the State Planning Office. Total est. occupied housing units = 562,873, population = 1.328 MM, 2.36 = average household size.

⁶ 35-A, M.R.S.A. §9202-A.

- Continue to refine the Authority's goals, minimum performance criteria for broadband service and areas eligible for Authority support, with guidance from the Legislature and the Advisory Council;
- Serve as a conduit for Maine's broadband initiatives at all levels of government and as a point of contact and broadband resource clearing house for communities, businesses and communications service providers;
- Monitor and assist the, the twenty three (2010) fourth round grantees and the 16 (2010) fifth round grantees to ensure that they have the resources necessary and that they meet grant requirements; and
- Conduct a sixth grant round in early spring 2011.

In addition, Authority staff will:

- Assist Network Maine (a consortium including the Maine Department of Education, Maine State Library, Office of Information Technology and University of Maine System) with efforts for the Maine School and Library Network to connect every K-12 public school and public library to the internet with high-speed fiber-based access;⁷
- Continue working with the rural health care pilot program grantees to enhance telehealth broadband connections;
- Participate in the state's Health Information Technology (HIT) initiatives. Maine has formed a "stakeholder" group to work on the HIT initiative;
- Be an engaged participant on the Maine Fiber Company (MFC) Advisory Board providing advice to MFC with the respect to the construction and operation of Three Ring Binder;
- Support the Keeping Maine's Forest-based Economy initiative's recommendation to develop cellular and broadband infrastructure to support and strengthen the forest-based economy;
- Monitor the adoption of the National Broadband Plan at the federal level and plan for any potential impact to Maine and its citizens; and
- The Executive Director will submit comments to the FCC for the many dockets and cases needed to implement the National Broadband Plan.

⁷ The Maine School and Library Network (MSLN) began in 1996. MSLN provides internet access to approximately 950 schools and libraries statewide. MSLN is funded from the Federal E-Rate program (approximately 60% of the cost) and the Maine Telecommunications Education Access Fund (MTEAF) (approximately 40% of the cost). Funds are generated through an assessment on interstate phone bills for the Federal E-Rate portion and on intrastate bills for the MTEAF portion (0.6%).

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INTRODUCTION

The ConnectME Authority 2010 annual report is divided into five sections: I. Background; II. Summary of Authority and Broadband Activities; III. Federal Broadband Activities and Initiatives; IV. Ongoing Authority Activities; and V. Conclusion and Attachments.

I. BACKGROUND

A. The Importance of Broadband

A number of national organizations, governmental agencies and public-interest groups have provided studies documenting the importance of broadband or high-speed internet access for rural states (such as the Federal Communications Commission, Pew Internet & American Life Project, Maine Development Foundation, Maine Center for Economic Policy and the USDA's Economic Research Service). The overwhelming consensus is that access to broadband services is a significant economic development tool for small businesses and home-based businesses and enables telecommuting, rural education and telemedicine.

Broadband infrastructure serves as a key engine of economic development, enabling communities to attract, retain and expand job-creating businesses and institutions. For example, over broadband connections, small and rural businesses are able to buy and sell their goods and services in both near and distant markets. The deployment of broadband infrastructure creates direct jobs – such as construction workers and technicians – but also leads to indirect job creation, for instance, by allowing companies to expand to new markets, lowering entry barriers for entrepreneurs and providing a platform for innovative new business models. Broadband can improve American's quality of life in other ways as well, helping us to address challenges in education, health care, public safety and energy.⁸

"Today, high speed Internet is transforming the landscape of America more rapidly and more pervasively than earlier infrastructure networks. Like railroads and highways, broadband accelerates the velocity of commerce, reducing the costs of distance. Like electricity, it creates a platform for America's creativity to lead in developing better ways to solve old problems. Like telephony and broadcasting, it expands our ability to communicate, inform and entertain."

*Federal Communications Commission
National Broadband Plan
March 2010*

⁸ "The Broadband Opportunities Program; Expanding Broadband Access and Adoption in Communities Across America" National Telecommunications and Information Administration, Dec. 2010 (1).

A recent study from the PEW Center on the States, *Bringing America Up To Speed* addresses ConnectME Authority's primary goal of expanding broadband availability. "Whether and how quickly the nation realizes broadband's potential depends heavily on states: specifically, their efforts to increase availability of the service among those who lack it, including building necessary physical infrastructure; to spur adoption among those who do not yet use it; and to apply technology to improve and expand health care, education, public safety, government transparency, elections and other essential services."⁹

The 2010 Aspen Institute *Universal Broadband Targeting Investments to Deliver Broadband Services to All Americans* white paper found, as expected, that cost is the single largest reason for non-adoption combined with the need for literacy, digital literacy and a basic understanding of how to manage content being major contributors.¹⁰ Based on this and other research and comments filed in the National Broadband Plan the Federal Communications Commission (FCC) "identified three major barriers that keep non-adopters from getting broadband: cost, digital literacy, relevance and an important and cross-cutting issue is accessibility for people with disabilities."¹¹

The importance and necessity of broadband was emphasized in a report from Maine Innovation Economy Advisory Board. The 2010 Science and Technology Action Plan articulated a vision: Create an environment where science, technology, innovation and entrepreneurship stimulate Maine's economy. Specifically, strategy 2.3 articulates the need to, Build a supportive environment for high-growth, high-potential, innovation-based enterprises. Provide the telecommunications infrastructure necessary for Maine businesses to compete globally by providing high-speed, high bandwidth broadband to businesses throughout the state and improving wireless coverage.¹²

Adequate middle mile infrastructure is not only critical to carrying the broadband traffic of many communities quickly and simultaneously to and from the Internet backbone, but it also reduces the cost to broadband service providers of building the "last mile" infrastructure that connects homes and local businesses to the Internet.¹³

By lowering the cost of last-mile connections, investments in middle mile facilities allow existing Internet service providers to enhance or expand their offerings and facilitate the entry of additional Internet service providers into the market to build

⁹ "Bringing America Up To Speed, State's Role in Expanding Broadband" Pew Center on the States, June 2010 (33).

¹⁰ A White Paper on the Universal Service Recommendations of the Knight Commission on the Information Needs of Communities in a Democracy, "Universal Broadband Targeting Investments to Deliver Broadband Services to All Americans" (2010).

¹¹ National Broadband Plan, page XI – XV (Executive Summary).

¹² "2010 Science and Technology Action Plan, A Bold Approach to Stimulate Maine's Economy," Final Draft, October 28, 2009. Maine Innovation Economy Advisory Board, and Maine Office of Innovation, Department of Economic and Community Development (11, 15).

¹³ "National Economic Council Recovery Act Investments in Broadband: Leveraging Federal Dollars to Create Jobs and Connect America, Dec. 2009, (3-8).

<http://www.whitehouse.gov/sites/default/files/20091217-recovery-act-investments-broadband.pdf>

connections to homes and businesses. NITA funded middle mile projects will therefore leverage public and private dollars to extend the reach of high-speed Internet into communities that would otherwise lack adequate access to broadband and its many opportunities.¹⁴

B. The ConnectME Initiative

As early as 1995, the Maine Legislature recognized the value of broadband when it stated:

The Legislature further declares and finds that computer-based information services and information networks are important economic and educational resources that should be available to all Maine citizens at affordable rates. It is the policy of the State that affordable access to those information services that require a computer and rely on the use of the telecommunications network should be made available in all communities of the State without regard to geographic location.¹⁵

In 2006, the Legislature created the ConnectME Authority to develop and carry out its broadband strategy by identifying unserved areas of the state; developing proposals for broadband expansion projects, demonstration projects and other initiatives; administering the process for selecting specific broadband projects; and providing funding, resources and incentives.¹⁶ In 2007, the Legislature also approved the Authority's major substantive rule that defines the state's broadband strategy and describes how that strategy is to be implemented. The Authority consists of a board of five members, an Executive Director, Associate Executive Director, assistance from the Public Utilities Commission and the Governor's Office and an Advisory Council.

Attachment B - Authority and Advisory Council members

In 2009, the Legislature created the Broadband Strategy Council (BBSC) to further refine and develop Maine's stated broadband strategy. The primary function of the BBSC is to advise the ConnectME Authority on all matters pertaining to broadband opportunities available under the Recovery Act, as well as advise the University of Maine System with respect to matters pertaining to the lease or sale of excess broadband capacity of the educational broadband service.¹⁷

¹⁴ "The Broadband Opportunities Program; Expanding Broadband Access and Adoption in Communities Across America" National Telecommunications and Information Administration, Dec. 2010 (3).

¹⁵ Title 35-A M.R.S.A. §7101(4).

¹⁶ PL 2005, c. 665.

¹⁷ Resolve, Chapter 108, 124th Legislature, First Regular Session.

II. SUMMARY OF AUTHORITY AND BROADBAND ACTIVITIES

The ConnectME Authority statute requires the Authority to report on four components: Budget; Investments; Activities; and Market Conditions. This Section covers the first three items. Market Conditions are reported on in Section IV.

A. Budget

The funding mechanism for the Authority is a 0.25% (one quarter of one percent) surcharge on all communications, video and internet service bills for retail in-state service.¹⁸ It is expected to generate between \$1.25 million and \$1.4 million per year. Verizon-Maine, as a condition of the stipulation that was approved by the Public Utilities Commission in approving Verizon's merger with Fairpoint, contributed \$2.5 million to the ConnectME Fund.¹⁹ It was received on May 8, 2008 and continues to provide resources for the Authority.

The grants awarded in 2007, 2008, 2009 and 2010 total over \$5 million. The fourth and fifth grant rounds, awarded in 2010, totaled over \$2,410,055. The ConnectME fund balance on December 31, 2010, was \$3,453,642. From that amount, plus upcoming assessments, \$2.4 million is committed for awarded grants not yet completely funded; \$1 million for the sixth grant round; matching funds for NTIA grants; and Authority operating expenses.

B. Investments

The ConnectME Fund is administered by an independent fiscal agent who manages the assessment process, invests the unused funds and makes payments as directed by the Authority. The fund administrator operates under contract at the direction of the Executive Director.²⁰ Interest generated by the fund is added to the fund balance.

C. Grant Activities

Awarding Process and Grants Awarded

¹⁸ Also included are retail revenues received or collected from mobile communications services (i.e. cellular telephone) that voluntarily agree to be assessed by the Authority.

¹⁹ On December 21, 2007, in MPUC Docket No. 2007-67, known as the Verizon-Fairpoint merger case, an amended stipulation was filed and accepted that contained a provision stating (on page 10): "...within 30 days of closing Verizon will make a one-time cash contribution in the amount of \$2.5 million to the ConnectME Authority in furtherance of the Authority's statutory objectives." Approved by MPUC ORDER, Docket No. 2007-67, issued February 1, 2008.

²⁰ The quarterly assessments are paid to an independent fund administrator the month after the end of each quarter. Rolka Loube Saltzer Associates (RLSA) is the fund administrator for the ConnectME Fund as well as the Maine Universal Service Fund and the Maine Telecommunications Education Access Fund.

The Maine Legislature established the Authority “to stimulate investment in advanced communications technology infrastructure in *unserved* or underserved areas.”²¹ The Authority believes that the goal to expand broadband access in the most rural, *unserved* areas that have little prospect of broadband service from a traditional or existing provider is a priority. The Authority accomplishes that goal primarily by awarding broadband expansion grants for projects that serve unserved areas.

Grant applications are reviewed by three non-industry members of the ConnectME Authority Advisory Council, the Executive Director and the Associate Executive Director. The applications are scored on the four criteria specified in the statute and rule: cost-benefit; community support; project scope; and project value. The public-private partnership concept is considered in the review, yet “getting the most for the money” is also a high priority because of the limited funds available.

In the fourth round of grant funding (2010), the Authority was presented with a total of 31 applications. Seventeen projects were funded for \$1.62 million with a total project value of \$3.16 million, for just over 50% funding of total project cost. Multiple objections were raised by providers seeking to service the same areas. In those cases where it could be determined that service was established, the application was unsuccessful in attaining funding. In cases where coverage was questionable an Overlap Avoidance Agreement was executed. The good news is that providers and communities are coming together with the ultimate outcome of providing service. Of particular interest in this round was an application for “No Subscriber Left Behind.” This project addresses a recurring problem for delivering broadband service – the higher than normal cost of doing some installations in very remote areas, where service is “available.”

The last half of 2010 saw the fifth round of grant funding awarded. Eighteen applications were submitted to the Authority with 16 being awarded for a total grant amount of \$1,523,669 and total project amount of \$2,320,867, for 65% funding of total project cost. Of interest in this round was the application submitted by the Town of West Bath. The project sought to be fully funded by the Authority for \$195,000 to serve 25 customers. Potential customers had approached providers in the past, aware that they might need to leverage Authority funding to attract a provider. They met with little success and submitted an application for full funding. The application was scored low due to lack of match and a very high grant amount per potential customer. Subsequent to the town’s application Fairpoint notified customers in this service area that they would be able to offer them DSL service from new infrastructure in the area. Few objections were raised during this grant round. It is worth noting that providers are becoming more involved with the Authority and collaborating between each other in the pre-application and post-award processes.

²¹ 35-A, M.R.S.A. §9203(1).

Oversight

The progress of the projects supported by the Authority is tracked through a monitoring and reporting process. The grant recipients document the expenditure of Authority funds which ensures that the funds are used only for appropriate purposes. Three reporting forms were developed with the assistance of the Authority Advisory Council:

- Notice of Commencement – This requires a schedule of project milestones and the expected completion date. Each vendor for the funded project is identified on the form along with appropriate reports and documentation such as invoices and purchase orders.
- Progress Report – This provides a project update to demonstrate to the Authority that the funded project is on track. The Executive Director monitors each project's progress and use of funds.
- Completion Report – This is a final report that documents the completion of the project with attached financial spreadsheets and a listing of the communities newly served with broadband service as a result of the project.

Attachment E - summaries for projects that have been funded

The ConnectME Authority is a component unit of the State of Maine and as such falls under Title 5 Section 1547 requirements to provide audited financial statements to the State of Maine Controller's office. Upon receiving Recovery Act funding the ConnectME Authority agreed to comply with OMB A-133 Single Audit requirements. Under these requirements, an entity that spends more than \$500,000 of federal funds in its fiscal year must have an audit in accordance with OMB A-133. If the entity spends less than \$500,000 of federal funds in a single year, the entity must have an audit in accordance with GAGAS, or Yellow Book Standards. The ConnectME Authority contracted with Macdonald Page & CO LLC of Augusta to perform the required audits for fiscal year ending June 30, 2010 through November 7, 2013 with two optional successive one-year terms, beginning November 8, 2013 and November 8, 2014.

Attachment C - ConnectME Authority Balance Sheet

In Macdonald Page & CO LLC's opinion, the financial statements referred to above present fairly, in all material aspects, the respective financial position of governmental activities and major fund of ConnectME Authority, as of June 30, 2010 and the respective changes in financial position for the year then ended in conformity with accounting principles generally accepted in the United State of America.

Monitoring the 2010 Fourth and Fifth Grants

The Authority will monitor and assist the 23 fourth and 16 fifth round grant awardees to ensure that they have the resources necessary to complete their projects as required by the grant award.

The Authority notes that eight of the thirty initial 2010 first round grant awards were cancelled because they were challenged by an existing or incumbent broadband service provider (as allowed by the Authority statute and rule) or cancelled by request because private investment would accomplish the same goal. The Authority strongly encourages parties to work together in crafting solutions that would provide the best expansion project while minimizing the impact on existing service providers.

The grant challenge process has improved over past grant rounds, mainly because incumbent vendors are prepared to demonstrate their coverage levels where areas in question are being served. As a result, the application, review and approval process was improved in round four. The most important step is to contact and involve the incumbent providers at the beginning of the grant application stage to collaborate with potential grant applicants to avoid overlapping projects.

Implementing the 2011 Sixth Grant Round

For the sixth round, the Authority estimates that \$1 million will be available and is again requesting smaller, focused proposals. A suggested grant limit for each project is \$100,000, funding no more than 50% of the total project, while recognizing that we can be flexible for exceptional proposals. The Authority looks for creative solutions for expanding affordable broadband service to the unserved areas of Maine, encouraging more targeted solutions, making the projects more manageable and easing oversight.

D. ConnectME Authority Advisory Council

The ConnectME Advisory Council assisted the Authority in defining “broadband” for grant purposes; defining “unserved” areas; and most importantly, developing a grant condition that protects private investment, while allowing grantees to provide service in unserved areas. The condition says that grant funds may not be used to install end-user equipment in areas or to customers that can subscribe to broadband service from another provider under “normal” installation rates and processes. The condition runs for a minimum of one year from the completion of the grant funded project.

E. Maine Broadband Strategy Council

The Broadband Strategy Council (BBSC) was created to advise the ConnectME Authority on all matters pertaining to broadband opportunities available under the Recovery Act, as well as advise the University of Maine System with respect to matters pertaining to the lease or sale of excess broadband capacity of the EBS. The BBSC was made up of two members of the Senate; three members of the House; a representative of the Department of Administrative and Financial Services; Office of Information Technology; the Commissioner of Economic and Community Development or the commissioner's designee; the chair of the Public Utilities Commission or the

chair's designee; the Executive Director of the ConnectME Authority; a representative from the University of Maine System; and a representative from the Maine School and Library Network.

The BBSC met ten times from July 2009 to December 2010, to craft a review process and to discuss all 105 USDA/RUS and NTIA grant applications that are either Maine-specific or multi-state projects that may pertain to Maine citizens. The BBSC reviewed all the applications using five criteria:

1. Proposed projects must be consistent with the BBSC vision,
2. Proposed projects should foster and support economic development,
3. Proposed projects should preserve existing jobs and create new jobs,
4. The BBSC will assess proposed projects in regard to their value, and
5. The BBSC will assess proposed projects in regard to their viability.

While the USDA/RUS was not seeking state input for its Broadband Infrastructure (BIP) projects, the BBSC did review the NTIA Broadband Technology Opportunities Program (BTOP) projects. Of 19 state-specific projects in 2009 and seven state-specific in 2010, the BBSC recommended nine in 2009 and seven in 2010 to the Authority for funding. The BBSC did not recommend any of the multi-state projects for funding. One was a project of interest that merits more investigation ("Broadband for the Deaf and Hard of Hearing"). Between 2009 and 2010 the Governor's final recommendations to the NTIA Administrator included 5 infrastructure projects totaling over \$58 million plus, five for Sustainable Broadband Adoption totaling over \$10.7 million and 3 for Public Computer Centers totaling over \$4.9 million. The largest infrastructure projects included one submitted by FairPoint Communications and one by GWI, called the Three Ring Binder for \$20 million and \$25 million respectively.

Section nine of the Resolve contained a deadline of December 1, 2010, which the BBSC met. Because of the importance of the projects to advancing broadband deployment in Maine, the Authority will assist and support the operators of all broadband endeavors.

F. Maine Fiber Company Advisory Board

The Authority's Executive Director, representing the ConnectME Authority, sits as one of nine members on the Advisory Board. The Advisory Board provides advice to MFC with the respect to the construction and operation of Three Ring Binder, including; the choice of appropriate anchor institutions to which the project should connect in order to meet federal grant obligations and promote the broadband goals of the State; how to maximize the economic benefits of the project to the State; ensure the project is constructed in a manner consistent with federal grant obligations and public purposes.

MFC is a dark-fiber leasing company supporting all telecom carriers in Maine. MFC was formed to oversee the construction, maintenance and leasing of a one, 100-mile, high-capacity fiber optic network in the state of Maine. The network is to be built through a combination of a federal grant and private investment. MFC mission is to

enhance ‘middle mile’ fiber access for carriers looking to provide quality broadband services to customers in many areas of Maine, including some of the most rural areas of the State.

G. State Legislation

"An Act To Enable the Installation of Broadband Infrastructure"²² created a new public utility category: dark fiber provider. It also created a Broadband Sustainability Fund to support “last mile” high-speed Internet expansion to unserved areas. The Recovery Act provided more than \$25 million to build dark fiber networks across Maine, including many unserved and underserved areas. The law will facilitate Maine Fiber in building its dark fiber network throughout the state. This legislation was required to aid the project in meeting time deadlines set forth in the Recovery Act. Maine Fiber is now in the process of installing 1,100 miles of dark (or unlit) fiber-optic cable on 36,000 utility poles across the state.

III. FEDERAL BROADBAND ACTIVITIES AND INITIATIVES

A. American Recovery and Reinvestment Act of 2009

The American Recovery and Reinvestment Act of 2009 (Recovery Act) was signed into law by President Obama on February 17th, 2009. The Recovery Act appropriated \$7.2 billion for broadband development and directed the Department of Agriculture's Rural Utilities Service (RUS) and The Department of Commerce's National Telecommunications Information Administration (NTIA) to expand broadband access to unserved and underserved communities across the U.S., increase jobs, spur investments in technology and infrastructure and provide long-term economic benefits.

The result is the RUS BIP and the NTIA BTOP programs. BIP provides loans and grants for broadband infrastructure projects in rural areas. BTOP provides grants to fund broadband infrastructure, public computer centers and sustainable broadband adoption projects.

Grantee	Total Award	Type
BTOP Awards:		
Axiom Technologies	\$1,429,596	Infrastructure
Biddeford Internet Corp. (d.b.a. GWI)	\$25,402,904	Infrastructure
Maine State Library	\$1,362,459	Public Computer Centers
State of Maine, ConnectME Authority	\$4,978,492	Broadband Data & Development
Total BTOP Awards	\$33,173,451	
BIP Award:		
TDS Telecom	\$9,404,866	Last Mile
Total Recovery Act Awards	\$42,578,317	

²² PL 2009, c. 612.

B. Federal Communications Commission

The FCC is currently working in coordination with the NTIA to perform the FCC's role under the Recovery Act. Specifically, in conjunction with the Broadband Technology Opportunities Program established by the Act, the FCC created a National Broadband Plan. The ConnectME Authority submitted Reply Comments to dockets seeking input to various aspects of the National Broadband Plan (<http://www.broadband.gov/plan/>) The first Reply Comments address transformation of the Universal Service Fund from supporting networks providing plain old telephone service into an effective and efficient tool for making affordable, high-quality broadband communications service available to all Americans through a Connect America Fund.²³

C. National Broadband Plan

In early 2009, Congress directed the Federal Communications Commission (FCC) to develop a National Broadband Plan to ensure every American has "access to broadband capability." Congress also required that this plan include a detailed strategy for achieving affordability and maximizing use of broadband to advance "consumer welfare, civic participation, public safety and homeland security, community development, health care delivery, energy independence and efficiency, education, employee training, private sector investment, entrepreneurial activity, job creation and economic growth and other national purposes."²⁴

Broadband networks only create value to consumers and businesses when they are used in conjunction with broadband-capable devices to deliver useful applications and content. To fulfill Congress's mandate, the plan seeks to ensure that the entire broadband ecosystem—networks, devices, content and applications—is healthy. It makes recommendations to the FCC, the Executive Branch, Congress and state and local governments.

Government can influence the broadband ecosystem in four ways:

1. Design policies to ensure robust competition and, as a result maximize consumer welfare, innovation and investment.
2. Ensure efficient allocation and management of assets government controls or influences, such as spectrum, poles and rights-of-way, to encourage network upgrades and competitive entry.
3. Reform current universal service mechanisms to support deployment of broadband and voice in high-cost areas; and ensure that low-income Americans

²³ Federal Communications Commission, WC Docket No. 10-90, NOI/NRPM FCC 10-58, released April 10, 2010. Reply comments submitted 8/10/2010.

²⁴ National Broadband Plan, page XI (Executive Summary).

can afford broadband; and in addition, support efforts to boost adoption and utilization.

4. Reform laws, policies, standards and incentives to maximize the benefits of broadband in sectors government influences significantly, such as public education, health care and government operations.

Long-Term Goals

In addition to the recommendations above, the plan recommends that the country adopt and track the following six goals to serve as a compass over the next decade.

Goal No. 1: At least 100 million U.S. homes should have affordable access to actual download speeds of at least 100 megabits per second and actual upload speeds of at least 50 megabits per second.

Goal No. 2: The United States should lead the world in mobile innovation, with the fastest and most extensive wireless networks of any nation.

Goal No. 3: Every American should have affordable access to robust broadband service and the means and skills to subscribe if they so choose.

Goal No. 4: Every American community should have affordable access to at least one gigabit per second broadband service to anchor institutions such as schools, hospitals and government buildings.

Goal No. 5: To ensure the safety of the American people, every first responder should have access to a nationwide, wireless, interoperable broadband public safety network.

Goal No. 6: To ensure that America leads in the clean energy economy, every American should be able to use broadband to track and manage their real-time energy consumption.

Meeting these six goals will help achieve the Congressional mandate of using broadband to achieve national purposes, while improving the economics of deployment and adoption. In particular, the first two goals will create the world's most attractive market for broadband applications, devices and infrastructure and ensure America has the infrastructure to attract the leading communications and information technology (IT) applications, devices and technologies. The third goal, meanwhile, will ensure every American has the opportunity to take advantage of the benefits broadband offers, including improved health care, better education, access to a greater number of economic opportunities and greater civic participation.²⁵

D. Federal Legislation

The "Broadband Data Improvement Act" (BDIA) directs the Secretary of Commerce to address the lack of accurate information about broadband service across the country.²⁶ Most significant for Maine, the BDIA also provides for grants to develop

²⁵ National Broadband Plan, page XI – XV (Executive Summary).

²⁶ S. 1492, Signed by President Bush, Oct 10, 2008: Became Public Law No: 110-385.

and implement statewide initiatives to identify and track the availability and take rates of broadband services within each state. Recovery Act funds are used to provide funding for the BDIA.

The BDIA requires the FCC to: 1) revise the definitions of advanced telecommunications capability meaning broadband; 2) identify tiers of broadband service where most connections can reliably transmit full-motion, high definition video; 3) revise certain provider reporting requirements to enable the FCC to identify actual numbers of broadband connections by customer type and geographic area; 4) determine certain demographic data for geographical areas that are not served by any provider of advanced telecommunications capability; 5) expand the American Community Survey to determine if persons subscribe to internet service and, if so, by dial-up or broadband; and 6) provide eligible entities including state agencies electronic access to aggregate data collected by the FCC from broadband service providers. The importance of this to Maine is explained below.

The Authority applied for a mapping and planning grant under the BDIA program as well as three supplemental grants. They consist of funding for increased mapping endeavors to augment the original mapping grant, a broadband capacity building project and a technical assistance project.

IV. ONGOING AUTHORITY ACTIVITIES

There are many opportunities and responsibilities for the ConnectME Authority in 2011, including expanded participation in federal and state initiatives, additional grant rounds, mapping served and unserved areas, building broadband capacity, improving digital literacy through technical assistance and working with local governmental organizations.

A. Coordinate Broadband Initiatives

Looking at the mid and long term, perhaps the most important role for the ConnectME Authority will be to continue to serve as a conduit for Maine's broadband initiatives at all of the levels of government and across the agencies. The Executive Director participates and contributes to efforts which identify and coordinate solutions to regulatory, policy and structural challenges to expanding the availability of advanced communications infrastructure in Maine.

Of particular interest is the Authority's work with the MFC Advisory Board and the Networkmaine Coordinating Council. The Executive Director sits as one of nine members on the MFC Advisory Board. The MFC Advisory Board provides advice to MFC with the respect to the construction and operation of Three Ring Binder.

The Authority participates in the Networkmaine Coordinating Council, a newly established unit within the University of Maine System created by the restructuring of its

communications and network services group. It was created in 2009 to provide the public entities served with greater involvement in shaping the future of Maine's research and education network.

We believe that working in collaboration with other agencies and at all levels of government is a means of enjoying economies of scale and holds potential for securing additional funding for Maine's broadband efforts. This level of partnership coincides with the Maine Development Foundation (MDF) recommendations in their 2010 report *Maine's Investment Imperative II: Unleashing the Potential*:

Fill broadband gaps to allow for greater business activity statewide

- Support creation of middle-mile fiber networks working with government and private industry to connect more small businesses across rural Maine
- Support ConnectME mission and funding of projects to expand access and take rates
- Work with and provide financial support to communities to solve local broadband problems and create community networks
- Review the regulatory regime to determine if regulations impose undue burdens on activity in this sector
- Maintain upkeep and maintenance of underlying existing infrastructure

Strengthen connections between institutions and within economic sectors

- Invest to strengthen connections between public schools (Pre K-12), the public University System and the Community College System
- Support the completion of the HealthInfoNet network of health care providers and hospitals

Anticipate and identify the next wave of technology

- Identify the next generation of connectivity technology and position Maine to take advantage of it by creating a statewide investment and implementation plan
- Explore wireless technology for "last mile" customers in rural areas where fiber optic networks are not financially viable

Explore opportunities to lower costs and increase the subscribership rate

- Encourage federal government to set up a program providing tax credits to providers and/or subscribers in high-cost tax areas
- Evaluate the costs and benefits of a similar tax program at the state level

- Work to support ongoing private investment in telecommunications infrastructure²⁷

The Maine Center for Economic Policy released findings of a study titled *Amenity Investments & Tourist Destination Development* which concur with the preceding findings by MDF, mainly, that major investment priorities include high speed internet and effective cell phone service where they are currently lacking. These are basic needs of today's tourism business and basic demands of many visitors.²⁸

B. Broadband Mapping and Inventory Project

The ConnectME Authority's activities confirm that not only are communications services, especially broadband services, in Maine not "reasonably comparable" with services provided regionally and nationally, but are not reasonably comparable within the state. A primary goal of the ConnectME Authority is to expand broadband access in the most rural, unserved areas of the state. It would be very difficult for unsupported projects to be financially viable in these areas. The support from ConnectME Authority grants alters the financial equations enough to allow the services to be offered. To meet this goal, the ConnectME Authority must determine with the highest degree of certainty it can, where broadband is and, more importantly, is not.

The ConnectME Authority is required to collect, aggregate, coordinate and disseminate information and data concerning communications services and advance communications technology infrastructure in the state.²⁹ For many years, the FCC has provided broadband reports that allow a reasonable comparison picture across the states. However, they tend to seriously overstate the availability of broadband services in each state, because if one broadband subscriber is located in a particular zip code, the FCC considers the entire zip code to have broadband. This overstatement is particularly true in a rural state like Maine. The BDIA discussed above, requires a much more granular reporting system, providing availability information down to the street segment or address level in a community.

In 2009, the ConnectME Authority began a comprehensive mapping and inventory project to obtain more granular, Maine-specific information regarding broadband availability. We are working with the Office of Information Technology and the Maine Office of GIS to conduct a mapping project that will use a combination of provider and public data to refine our understanding of unserved areas of Maine.

In January 2010, the ConnectME Authority was awarded \$1.8 million to fund a mapping and planning project from the NTIA as part of its BTOP program funded under

²⁷ "Maine's Investment Imperative II: Unleashing the Potential" Maine Development Foundation, July 2010 (84 - 85).

²⁸ "Amenity Investments & Tourist Destination Development: Policy Insights from Three Rural Maine Regions" Maine Center for Economic Policy. August 2010 (4).

²⁹ 35-A, M.R.S.A. §9204(3)(A).

the Recovery Act. The grant funds facilitate a much more detailed and complete analysis of broadband than would have been possible with only the Authority's modest resources. The grant amount is approximately \$1.3 million for broadband data collection and mapping activities over a two-year period and nearly \$440,000 for broadband planning activities over a five-year period in Maine, bringing the total grant award to nearly \$1.8 million. The ConnectME Authority issued a RFP that resulted in a contract with James Sewall Company of Old Town (Sewall) to conduct the comprehensive broadband mapping and inventory project.

In 2010 Sewall, in collaboration with industry service providers, state and federal agencies and local communities, developed a searchable geographic map. The map indicates where broadband service is available from one or more technology platforms: fixed wire, fixed or point-to-point wireless and mobile or satellite wireless systems. The end product enables community leaders, consumers and businesses to access information on service options and potential service providers for their locations of interest. All states received mapping and inventory Recovery Act funding to create online geographic maps. Data from each state is sent to the NTIA for populating a nationwide broadband map expected to be made available to the public in February 2011.

C. Broadband Planning Project

In April the ConnectME Authority issued a request for proposal (RFP) to develop and conduct a statewide comprehensive planning project. The RFP resulted in a contract with Sewall which is teaming with Packard Judd Kaye Strategic Marketing Group; broadband expert Jeff Latourneau, Executive Director of Networkmaine; and Todd Gabe, Associate Professor of Economics at the University of Maine, to form the Sewall planning team.

A major concern of the Authority beyond the simple availability of broadband service is the low take-rate or adoption and subscribership to available broadband services. Maine's average adoption rate is significantly lower than the national average. Factors contributing to a lower than average adoption rate are socio-economic, low income consumers cannot afford the computer or the cost of subscribing to broadband service; lower education level, consumers are not aware of the services available online; and many consumers do not see value in being online. Increasing the adoption rate for broadband services changes the economic "tipping point" for investment by service providers.

This project provides benchmarking of uses of broadband, the benefits, the drivers for greater adoption of broadband and the barriers to adoption focused on household and on business establishments in Maine. One particular focus, although not exclusive to the focus area, will be on the telemedicine industry sector.

Methods utilized for tracking the impact of broadband over time with households and industry sectors are a major factor. Results will be tracked by industry as well as the demographic parameters. The capability of technically integrating the results into

the existing mapping project should be a very powerful tool for long-term development of Maine's broadband needs.

The 2010 *Pew Bringing America Up To Speed, State's Role in Expanding Broadband* study found that the more the states use the planning grants to help them develop their long-range visions for broadband deployment and usage, the better positioned they will be to achieve their goals.³⁰

D. Broadband Capacity Building Project

Additional opportunities were funded by the FCC through the original State Broadband Data and Development Program (SBDD). The ConnectME Authority carefully examined the opportunities available and submitted applications in two categories: broadband capacity building and technical assistance. The Authority has been awarded a total of \$4.98 million over five years under the SBDD grant. The Maine State Planning Office (SPO) was chosen to administer the Broadband Capacity Building Project.

The SPO will convene a Broadband Capacity Building Task Force and manage the creation and implementation of a Broadband Capacity Building Plan throughout the state. The Task Force and SPO staff will utilize the statistics and demographics collected through the planning portion of the SBDD Program to determine focus areas for the Broadband Capacity Building Project. The two initiatives will work together with the planning project providing data and information to the broadband capacity building project.

The Task Force will develop the Broadband Capacity Building Plan to support broadband growth and adoption with inclusion of suppliers of IT services. This will be accomplished by convening statewide conferences and meetings intended to disseminate technical information about broadband availability data collection and the results of research collected to date to further improve understanding of and opportunities to enhance broadband within Maine. This includes the completion of strategic planning based on gap analysis of availability, adoption and the existing capacity of residents, businesses and local support organizations. Programs that currently exist to support broadband growth and adoption will be assessed. The plan also includes gathering state and local capacity benchmark data to determine the success of the Broadband Capacity Building Project over time.

The SPO will introduce and promote the Broadband Capacity Building Project through the Quality of Place initiative and Mobilize Maine's systematic and consistent approach to planning regional and statewide asset based community and economic development strategies. The Broadband Capacity Building project will help stimulate the health of Maine's workforce and its economy in two ways:

³⁰ "Bringing America Up To Speed, State's Role in Expanding Broadband" Pew Center on the States, June 2010 (8).

1. By supporting broadband growth and adoption to the private sector, skilled workers and entrepreneurs who can live anywhere but want to live in Maine because of its distinctive quality of place; and
2. By increasing the quality and efficiency of health care service delivery.

E. Technical Assistance Project

The second opportunity that was funded with the supplemental Recovery Act grant monies was the Technical Assistance Project. The ConnectME Authority, in collaboration with the Maine Department of Education (DOE) Adult and Community Education Program, is providing Maine citizens across the state the technical assistance and training necessary to fully utilize the broadband capacity now available or being planned and deployed.

The Maine Department of Education, with the cooperation of the state's 109 community-based adult education programs, is uniquely qualified to assume this role. Adult education serves every corner of the state with educators skilled in working with adult learners, attuned to the special needs and learning styles of its customers. The Broadband Technical Assistance Project is increasing outreach to our most in need adults bolstering their confidence to use Maine's growing digital infrastructure to achieve social and economic benefits.

The Technical Assistance Project is expanding the Maine Adult Regional Technology Initiative (MARTI) program to adult educators and programs across the state. Adult educators, already closely connected to Maine communities and organizations that serve them, in turn provide on-going training to staff community members based on individual student needs and learning styles, key tenants of adult education.

The project also offers the same intensive training being offered to Literacy Volunteer tutors and staff in the 14 programs providing that important service throughout Maine. The training provided by the MEDOE creates a core of experienced teachers that can spread positive learning experiences and sustain training efforts in each program beyond the training provided by the grant.

Training provided in MARTI will increase each adult education program's capacity for learning as broadband access expands. Teachers, learners and administrators will be introduced to synchronous and asynchronous methods of communication shared with all those that have access to broadband networks. These methods include the ability to do the following using FREE tools and open educational resources:

- transmitted learning materials over broadband to learner's mobile devices
- email and social networks that can help establish PLC for learners as well as teachers
- real time chats with many participants

- voice collaboration and conferencing services
- video collaboration
- the ability to easily have remote learners share computer screens with teachers to receive individual guidance

All users of broadband will then have access to the technical assistance afforded by the training received in MARTI.

F. Access to Facilities and Rights of Way

An ongoing challenge for broadband service providers, especially fixed-wireless providers, is obtaining access to existing towers, bridges, high points, roadways for conduit and public buildings for the location of equipment. The issue of access to existing utility poles and the cost and time for make-ready work is a large challenge for independent wired broadband service providers, both for last-mile and middle-mile facilities. These two issues cause unnecessary delay and higher cost for the expansion of infrastructure to serve the most unserved areas of the state.

The Center for American Progress reports that a recent study by the New America Foundation suggests that road construction and repair can be an enormous help for the broadband middle mile problem. Construction costs for highways are generally at least \$3 million per lane, per mile. By contrast, it only costs between \$10,000 and \$30,000 per mile to install conduit pipe that can hold the fiber-optic lines used for high-speed Internet purposes. Thus, "adding fiber would increase highway construction costs by as little as one percent on average."³¹

The Broadband Capacity Building Project will explore and develop policies and procedures for use of private and public facilities such as radio towers, buildings and rights-of-way by private service providers for expanding broadband and cellular service.

G. Health Information Technology

The ConnectME Authority participates in the state's Health Information Technology (HIT) initiatives. A healthy citizenry and workforce are central to Maine's quality of place. High speed Internet allows instantaneous, interactive contact between health professionals and patients permitting remote monitoring, efficient chronic disease management and more effective responses to emergencies. High speed Internet can help senior citizens and people with disabilities live independently, improve their quality of life and reduce costs of care.

Maine will soon receive \$6.6 million from the federal government to "rapidly build capacity for exchanging health information across the health care systems both within and between states." Broadband infrastructure and adoption is critical to building that capacity and advancing Maine's Health Information Technology (HIT) initiative. Through

³¹ "Smart Grid, Smart Broadband, Smart Infrastructure" April 2009 (3).

the Broadband Capacity Building Project the SPO is aligning efforts with the HIT initiative. The ConnectME Authority wholeheartedly agrees with the importance of technology and medicine.

V. CONCLUSION

The short history of the ConnectME Authority has shown that supporting small public-private initiatives to expand broadband has been and will continue to be the best strategy. Much has been accomplished in the past three years to better position Maine as a state that embraces what technology can offer.

In the report *Making Maine Work: Critical Investments for the Maine Economy* one of the top recommendations made is to make high speed internet service available at reasonable costs to businesses throughout Maine by:

- Encouraging on-going private investment in communications infrastructure to increase access to and availability of high-capacity broadband.
- Working with communications providers and Maine's Congressional Delegation to modernize federal communications regulations.
- Supporting ConnectME's efforts to identify and fill gaps in the communications network.³²

Maine is on its way to realize its universal broadband availability goals. Yet much work remains for Maine to become a leader and to gain from the benefits of broadband including employment opportunities, education, healthcare and public safety. We also need to coordinate state and federal activities to ensure that we take advantage of all opportunities for funding and collaboration. The ConnectME Authority commits to working with all levels of government and public and private stakeholders to bring broadband advantages to fruition in Maine.

Attachments:

Attachment A – Glossary
Attachment B – ConnectME Authority and Advisory Council Members
Attachment C – ConnectME Balance Sheet
Attachment D – FCC Reply Comments
Attachment E – ConnectME Grant Awards

³² "Making Maine Work: Critical Investments for the Maine Economy" Maine Development Foundation, July 2010 (17).

Attachment A – Glossary

BPL (broadband over power lines), a technique for delivering high-speed Internet access over electrical power lines, with the ability to use house wiring to connect to computers.

Broadband, an elastic term describing high-bandwidth, two-way, always-on data connections. The wider the pipe, the more data can be moved at the same time and hence the higher the effective speed. The FCC has seven broadband tiers with “basic broadband tier 1” referring to services equal to or greater than 768 kbps but less than 1.5 Mbps in the faster direction. A typical home user broadband connection today usually is 512 kbps upstream and 2-7 Mbps downstream. In a few years, those numbers are likely to be significantly higher. The term “broadband” is often used as shorthand for “high-speed Internet access.”

business user, a user in a business setting constituting a broad “middle class” in terms of bandwidth, reliability and security needs. See also *home user*, *enterprise user*.

cable internet, or cable modem service, a means of delivering broadband via coaxial cables, almost always simultaneously with cable television service and VoIP telephone service.

Central Office (CO), a switching station maintained by an ILEC where DSLAMs are generally deployed and from which the maximum range of DSL service (reckoned in “circuit feet,” distances over twisted-pair copper lines, not “as the crow flies”) can be determined.

CLEC, Competitive Local Exchange Carrier.

DS3, a fiber-based digital signal carrier with a rate of 44.736 Mbps.

DSL, digital subscriber line. There are many subtypes of DSL (xDSL, ADSL2, SDSL, etc.) of varying speed, range and technical characteristics.

DSLAM, digital subscriber access multiplexer.

enterprise user, the most demanding, industrial strength broadband consumer that usually represents large, technology-intensive organizations.

fixed wireless, a non-mobile method of delivering broadband service to homes and businesses using line of sight radios.

FTTH/FTTP, fiber to the premises, home, et al. a method of connectivity using fiber optic cabling direct to the end user.

home user, the class of broadband consumer with the least demanding broadband needs but which also faces total unavailability of service in many areas.

ILEC, Incumbent Local Exchange Carrier.

ISP, internet service provider.

last mile, a term for connection to the end user, also known as the “local loop” for telecommunications services that makes the final connection to the premises.

middle mile, also known as backhaul, connects the last mile internet service provider with an Internet backbone service provider.

municipal network, a broadband network owned and operated by a city or town, often by lease arrangement with an ILEC/CLEC.

Narrowband, low-speed data connections (such as dialup Internet access, a typical maximum of 56kbps and is generally even lower in real-world applications).

PON (passive optical networking), a family of networking standards using a point-to-multi-point architecture for delivering last-mile connectivity without any active (i.e., powered) components in the distribution network. PON may provide hope for a last-mile solution because it involves fewer upgrades to the current infrastructure than competing technologies.

Remote Terminal, a remote switching station, or “sub-station” maintained by an ILEC where DSLAMs are generally deployed and from which the maximum range of DSL service (reckoned in “circuit feet,” distances over twisted-pair copper lines, not “as the crow flies”) can be determined.

symmetrical/asymmetrical, describes whether a data connection operates at the same speed or bandwidth when traveling upstream as it does when traveling downstream. A symmetrical connection is the same speed up or down; an asymmetrical connection is usually much slower on the upload than on the download.

T-1, trunk level digital carrier, originally provided over copper facilities, with a signaling speed of 1.544 Mbps.

take rate or penetration rate or adoption rate, a measure of the ratio of potential subscribers to whom service is available to those who actually sign up for that service.

triple play, the application of broadband that delivers voice, data and video service over the same transport pipe.

VoIP, voice over internet protocol. Voice “telephone” service provided over a data connection such as DSL or cable internet service.

WiFi (wireless fidelity), a form of wireless networking in the IEEE 802.11x family of standards that is generally used for connectivity of wireless large-area networks (WLANs) inside buildings and small outdoor areas, but which has shown remarkable usefulness as a way of providing high-speed Internet over wider distances via towers, high-gain antennae and mesh-network technologies that significant exceeds what WiFi was originally intended to do.

WiMAX (Wireless Interoperability for Microwave Access), an emerging form of fixed wireless broadband access in the IEEE 802.16x family of standards. The licensed version has a theoretical range and distance of up to 30 miles and 50Mbps or higher but is only available to the larger carriers. WiMAX is able to overcome some of the topographical issues faced by other forms of wireless broadband.

WISP, wireless internet service provider.

Attachment B – ConnectME Authority and Advisory Council

Authority Members:

1. Jean Wilson, Chair, Vice President of Information Services at LL Bean
2. Mitch Davis, Chief Information Officer for Bowdoin College
3. Greg McNeal, Chief Information Officer for Maine State Government
4. Vendean Vafiades, Commissioner on the Maine Public Utilities Commission
5. Dick Thompson, Principal Consultant at T4G

Advisory Council:

1. Fletcher Kittredge, GWI, Chair
2. Reggie Palmer, TDS Telecom and President of TAM, Deputy Chair
3. Armando Ruiz, VP Engineering, Time Warner Cable
4. Linda Lord, Maine State Librarian
5. Ralph Caruso, CIO - University of Maine System
6. Jeff Wheeler, HermonNet
7. Scott Thibeau, Project Manager MSLN (MTEAF)
8. Greg Schueman, Maine Technology Institute
9. John Burns, Small Enterprise Growth Fund
10. Pat Scully, Bernstein, Shur
11. Wayne Jortner, Office of the Public Advocate

Attachment C – Balance Sheet**ConnectME Authority****Balance Sheet – Government Fund**

June 30, 2010

	Special Revenue Fund
ASSETS	
Cash and cash equivalents	\$ 3,336,873
Accounts receivable	377,418
Due from other governments	35,575
Other receivable	32
Total Assets	<u>\$ 3,749,898</u>
LIABILITIES AND FUND BALANCE	
Liabilities	
Accounts Payable	\$ 119,177
Accrued Liabilities	1,228
Total Liabilities	<u>120,405</u>
Fund Balance	
Reserved for:	
Advanced communications technology Infrastructure	<u>3,629,493</u>
Total Liabilities and Fund Balance	<u>\$ 3,749,898</u>

Attachment D – FCC Reply Comments

Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of)	
)	
Connect America Fund)	WC Docket No. 10-90
)	
A National Broadband Plan for Our Future)	GN Docket No. 09-51
)	
High-Cost Universal Service Support)	WC Docket No. 05-337

Reply Comments of the ConnectME Authority, State of Maine

The ConnectME Authority, State of Maine (Authority) applauds the Federal Communications Commission (FCC) for its boldly articulated National Broadband Plan (NBP). Covering all the important connectivity issues, the plan clearly describes each, and offers far reaching and innovative recommendations. Of particular import is the detailed analysis of specific areas in the National Purposes section. Each and all of those areas are made much more effective and efficient with high-speed broadband connectivity.³³ Broadband ties it all together, much like the telegraph did in the nineteenth century.³⁴

The Authority agrees with the FCC, that many areas of country are just too expensive to serve with broadband without government support. That is the Authority's primary goal and task. We fund projects to provide broadband service in rural, unserved areas of Maine with the ConnectME Fund.

The Maine Legislature approved the operation of the Authority with the goal of expanding broadband access in the most rural, un-served areas of the state that have little

³³ National Broadband Plan, page 193 (Health Care, Education, Energy and the Environment, Economic Opportunity, Government Performance, Civic Engagement, and Public Safety).

³⁴ Tom Standage, The Victorian Internet: The Remarkable Story of the Telegraph and the Nineteenth Century's On-line Pioneers, Walker & Company, October 1998.

prospect of service from a traditional provider. The Authority is to “identify un-served areas of the State; develop proposals for broadband expansion projects, demonstration projects and other initiatives; and administer the process for selecting specific broadband projects and providing funding, resources, and incentives.” The Authority is funded by a 0.25% surcharge on instate retail communications services. The Authority funds proposals through grants made on behalf of, in partnership with, or in support of, one or more eligible communications service providers.

To date, the Authority has awarded over \$3.6 million in grants, to forty-two projects, with total project costs of nearly \$10 million. Two projects of note are matching funds provided to the Franklin Community Health Network for their Rural Health Care Pilot Project grant and a “Link-Up” pilot to provide subsidy for high-cost fixed-wireless broadband installations.

The Authority appreciates the opportunity to provide reply comments on particular issues raised in the NOI/NPRM and we support the FCC’s initiatives to address the complex issues regarding the increased deployment of broadband service in the most needed areas of the country. While the NOI/NPRM addresses a litany of important areas involving mechanisms for broadband funding, our comments will focus on those we feel are most important to Maine’s unserved consumers.

We agree with the FCC’s **initial** universalization target of 4 Mbps actual download speed and 1 Mbps actual upload speed, noting the emphasis on “actual,” as a target to guide public funding. For a household or business without access to terrestrial broadband service or using dial-up, 4 Mbps would be a tremendous improvement. Stating that the initial target is designed to increase over time is crucial. However, as broadband technology, and the applications that use broadband, is so dynamic, we suggest that the FCC review and reset this target for public investment more often than every four years – annually as the Authority is required to do would be more effective. We also agree with the aspirational target of 100 Mbps for 100 million homes.

We firmly believe with the three stages of recommendations contained in the NBP, especially the creation of the Connect America Fund (CAF) in Stage One.³⁵

We do not offer an opinion on which cost model to use in determining support, but it does seem to be economically obvious to use an updated, forward looking model rather than one that uses embedded costs. The NBP plan model for the CAF should be used as the foundation or starting point for developing a new model. We are dismayed by the statements in the NOI/NPRM that indicate that current support programs do not depend on the characteristics of the area to which support is directed or the cost of serving that area, but rather on the size of the carrier or regulatory classification.³⁶ We agree with the statement by Senator John D. Rockefeller IV, in his letter to FCC Chairman Genachowski, “A more sensible and efficient system – that delivered true universal service – would focus less on the size of the carrier providing the service and more on providing support to those areas of the country that lack service today.”³⁷

We feel that support should be directed only towards transport, or the “pipe,” not to the services or applications that flow through the pipe. In today’s digital world, all services are just ones and zeros, whether voice, video, or data. It is transport service capable of the initial bandwidth standard that is important. If all households in unserved areas have access to a pipe capable of 4 Mbps actual download speed, they then have access to a variety of providers that can supply VoIP voice service, as well as all the other services and applications available from the network. Any new model and support mechanism contained in the CAF should definitely be company- and technology-agnostic. The cost model chosen should include estimates of costs from various current and soon to be deployed technologies. That would ensure the least cost, most efficient solution. The FCC should broaden the CAF contribution base to include all companies that provide broadband transport service and all services that are delivered with that broadband service. Likewise, the eligibility requirements for obtaining CAF support should be widened to be company- and technology-agnostic. Competitive neutrality and support for only

³⁵ National Broadband Plan, page 135.

³⁶ FCC 10-58, NOI/NPRM, at ¶ 3.

³⁷ Letter dated August 2, 2010, Senator Rockefeller to FCC Chairman Genachowski.

one provider in a designated area are critical components of the next generation support program. These are the attributes that the Authority applies to its grant awards.

We recognize that the FCC does not have access to a granular, comprehensive data set regarding broadband availability. That will soon change. The NTIA's State Broadband Data and Development (SBDD) grant program is generating granular broadband availability data that will allow states and the FCC to better understand where broadband is, and more importantly, where it is not. We believe that the FCC's initial estimates of broadband availability are likely overstated, especially for rural areas of the country like Maine. The newly available granular data sets will allow the FCC to fine tune its estimates and better craft support mechanisms and FCC cost models.

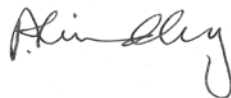
We agree that any model should take into account revenues from all services provided over the supported network or pipe, such as voice, video, and data services. We do not agree that the county level is the appropriate level of granularity to use for any cost model. As noted above, the SBDD will supply the necessary level of detail to drill down to those unserved areas that actually need support. Ideally, the geographic area would be at the street address or street segment level of granularity, especially for census blocks smaller than two square miles. A county wide approach is wholly inadequate in a rural, sparsely settled state like Maine. For example, Penobscot County contains the thriving City of Bangor, which includes a major university, health care facilities, and substantial economic resources. Penobscot County also includes areas unserved by any telecommunications provider for any type of service. Cost characteristics would vary widely.

We do believe that some form of "reverse auction" is worth consideration. The Authority has discussed that form of a proactive approach to funding broadband infrastructure in unserved areas of Maine. It does require accurate, granular data regarding availability. Our current method of funding build-out projects is reactive. Grant applicants are required to demonstrate that the grant project will only provide service to unserved areas. The lack of accurate data means that incumbent providers in the area are required to review the grant applications for potential overlap with their current or proposed service. A very cumbersome process.

The Authority appreciates the opportunity to provide these brief reply comments and will provide any additional information the FCC may require in implementing the National Broadband Plan.

Respectfully submitted this 10th day of August, 2010

By:

A handwritten signature in cursive script, appearing to read "Phillip Lindley".

Phillip Lindley, Executive Director
ConnectME Authority
78 Statehouse Station
Augusta, ME 04333-0078

Attachment E – ConnectME Grant Awards

Applicant	Community Partner or Eligible Partner	Communities Served	Estimated Household Availability	Technology	Total Project Cost	Grant Award	Percent Grant	Notes	Grant Round
Axiom Technologies	Washington County: One Community	Addison, Beals, Centerville, Cherryfield, Columbia, Columbia Falls, East Machias, Jonesboro, Jonesport, Machias, Machiasport, Marshfield, Roque Bluffs, Whitneyville, Calais, Eastport, Milbridge, Pleasant Point Res.	7,614	Wireless	\$284,369	\$79,947	28%	Mitton Mountain Zone Project.	1
Chebeague.net, Inc.	Chebeague Is.	Chebeague Is.	499	Wireless	\$175,392	\$75,000	43%	With MainelyWired	1
Cornerstone Communications, LLC	Piscataquis County Economic Development Council	Abbot, Atkinson, Barnard Twp, Blanchard Twp, Bowerbank, Bradford, Brownville, Charleston, Corinth, Dexter, Dover-Foxcroft, Elliotville Twp, Guilford, Hudson, LaGrange, Lakeview Plantation, Milo, Monson, Orneville Twp, Parkman, Sangerville, Sebec, T5 R9 NWP, Williamsburg Twp, Willimantic	4,000	DSL & wireless	\$518,875	\$368,377	71%		1
Monson, Town of	Cornerstone Comm.	Monson, Blanchard	634	DSL & wireless	\$83,200	\$62,400	75%	Granted extension to 6/30/09	1
Redzone Wireless	Mount Desert and Cranberry Isles	Cranberry Isles, Seal Harbor, Somesville, Pretty Marsh, Great Cranberry, Islesford, Sutton, Baker Is.	810	Wireless	\$325,000	\$115,000	35%		1
Somerville, Town of	Midcoast Internet Solutions	Somerville	279	Wireless	\$143,500	\$38,000	26%		1
Axiom Technologies	Town of Steuben	Town of Steuben	453	DSL/Wireless	\$150,428	\$45,078	30%		2

Applicant	Community Partner or Eligible Partner	Communities Served	Estimated Household Availability	Technology	Total Project Cost	Grant Award	Percent Grant	Notes	Grant Round
Axiom Technologies	Washington County: One Community, Sunrise County Economic Council, Washington County Emergency Management Agency	Alexander, Baileyville, Baring, Charlotte, Codyville, Cooper, Crawford, Cutler, Danforth, Dennysville, Edmunds, Grand Lake Stream, Harrington, Indian Township, Lubec, Marion, Meddybemps, Northfield, Pembroke, Perry, Princeton, Robbinston, Talmadge, Topsfield, Trescott, Vanceboro, Waite, Wesley, Whiting	5,785	DSL/Wireless	\$1,868,091	\$532,640	29%	Washington County Broadband Project	2
Franklin Community Health Network	To be determined by RFP under FCC guidelines.	Rural areas of Franklin, Oxford, and Androscoggin Counties.	NA	Fiber network linking 7 healthcare facilities in 6 towns and 7 addresses in year one.	\$2,385,600	\$357,840	15%	Extension to 10/09/10. Grant request is for 15% match requirement for first year of a two year Federal grant = \$3.6M over two years.	2
Mainly Wired LLC	Town of Penobscot	Penobscot, <i>parts of Blue Hill, Brooklin, Castine, Orland</i>	900	Wireless	\$327,400	\$157,300	48%		2
Redzone Wireless	Support from many of the listed communities.	All or parts of the following: Bar Harbor, Tremont, Frenchboro Is., Swans Is., Winter Harbor, So Gouldsboro, Trenton, <i>other (So Surry, Lamoine, Hancock, Sullivan, Sorrento, Stonington, Deere Isle, Brooklin, Isle Au Haut)</i>	1,540	Wireless	\$816,420	\$346,370	42%	Extension to 9/18/10	2
Edgecomb Broadband Committee	Time Warner, Lincolnville Comm.	Town of Edgecomb	758	FTH & CTH	\$464,498	\$232,250	50%	Extention to 9/30/10. Grant Conditions: Cooperate with incumbent company and not to install end-user equipment in Fairpoint normal service areas.	3
Fairpoint Communications	Town of Arrowsic	Town of Arrowsic	238	DSL	\$105,120	\$52,560	50%		3
Jefferson, Town of	Midcoast Internet Solutions	Town of Jefferson	684	Wireless	\$120,000	\$52,550	44%	Grant Conditions: Cooperate with incumbent companies and not to install end-user equipment in Time Warner or Fairpoint normal service areas.	3

Applicant	Community Partner or Eligible Partner	Communities Served	Estimated Household Availability	Technology	Total Project Cost	Grant Award	Percent Grant	Notes	Grant Round
Premium Choice Broadband		Town of Franklin	736	Wireless	\$105,500	\$52,750	50%	Grant Conditions: Cooperate with incumbent companies and not to install end-user equipment in Fairpoint or Time Warner normal service areas.	3
Premium Choice Broadband		Town of Hammond	221	Wireless	\$157,500	\$78,750	50%	Extension to 1/24/11.	3
Premium Choice Broadband		Town of Jackman	312	Wireless	\$97,500	\$48,750	50%	Grant Conditions: Cooperate with incumbent company and not to install end-user equipment in Fairpoint normal service areas.	3
Premium Choice Broadband		Town of Rockwood	836	Wireless	\$99,000	\$49,500	50%	Extension to 1/24/11.	3
Premium Choice Broadband		South Rangely area	442	Wireless	\$85,500	\$42,750	50%	Extension to 1/24/11. Grant Conditions: Cooperate with incumbent company and not to install end-user equipment in Fairpoint normal service areas.	3
Axiom - NSLB		Washington Cnty	375	Mixed	\$100,000	\$73,080	73%	High cost, special installations. Plus, \$23k from previous Eastbrook cancelled award.	4
Baldwin, Town of	Time Warner Cable	West Baldwin	69	Cable	\$118,750	\$83,046	70%	Estimate for total project.	4
Dresden, Town of	Midcoast Internet	Dresden	150	Fixed-Wireless	\$157,450	\$68,150	43%		4
Midcoast Internet	Northport	So. & West Northport	150	Fixed-Wireless	\$84,700	\$40,900	48%	Est. 150 to 200 potential custs.	4
Pioneer Broadband	Amity	Amity	60	DSL	\$43,980	\$26,450	60%	Amity Rt1 RT	4
Pioneer Broadband	Cary Plantation	Cary Plantation	50	DSL	\$43,920	\$27,570	63%	Skedgell Road RT	4
Pioneer Broadband	Cary Plantation	Cary Plantation	70	DSL	\$32,080	\$15,970	50%	Wilcox Road RT	4
Pioneer Broadband	Hodgdon	Hodgdon	100	DSL	\$32,260	\$16,060	50%	Williams Road RT	4
Pioneer Broadband	Houlton	Houlton	100	DSL	\$43,200	\$21,100	49%	White Settlement Rd RT	4
Pioneer Broadband	Linneus	Linneus	250	DSL	\$63,520	\$31,420	49%	Burton Rd RT	4
Pioneer Broadband	Ludlow	Ludlow	200	DSL	\$52,180	\$25,950	50%	Ludlow1 Mooers RT	4
Pioneer Broadband	Ludlow	Ludlow	100	DSL	\$41,460	\$19,960	48%	Ludlow2 MooseBrook RT	4
Pioneer Broadband	Ludlow	Ludlow	100	DSL	\$43,300	\$21,100	49%	Ludlow3 Hemore RT	4
Pioneer Broadband	Houlton	Houlton	60	DSL	\$47,280	\$20,530	43%	B Road 1 Cogan RT	4
Pioneer Broadband	Hammond & Ludlow	Hammond & Ludlow	70	DSL	\$45,880	\$22,470	49%	B Road 2 Laskey RT	4
Pioneer Broadband	New Limerick	New Limerick	300	DSL	\$60,140	\$27,040	45%	Cameron's Market RT	4
Pioneer Broadband	New Limerick & Linneus	New Limerick & Linneus	150	DSL	\$42,680	\$21,130	50%	Free Will Baptist RT	4
Pioneer Broadband	New Limerick	New Limerick	100	DSL	\$45,260	\$21,810	48%	Lake Road / Deerfield RT	4
Pioneer Broadband	New Limerick	New Limerick	150	DSL	\$44,520	\$21,770	49%	Drews Lake/N Shore RT	4
Pioneer Broadband	Orient	Orient	70	DSL	\$102,920	\$78,520	76%	Orient 1 TownOffice RT	4

Applicant	Community Partner or Eligible Partner	Communities Served	Estimated Household Availability	Technology	Total Project Cost	Grant Award	Percent Grant	Notes	Grant Round
Pioneer Broadband	Orient	Orient	70	DSL	\$47,720	\$22,460	47%	Orient 2 Deering RT	4
Pioneer Broadband	X	Houlton Area RT Project (17 grant awards)			\$832,300	\$441,310		<i>Pioneer subtotals not included in totals.</i>	
Richmond, Town of	Time Warner Cable	Richmond	43	Cable	\$87,260	\$66,010	76%		4
Waldoboro, Town of	Midcoast Internet	Waldoboro	350	Fixed-Wireless	\$275,000	\$113,889	41%		4
Aroostook County	Time Warner Cable	Sinclair	247		\$234,000	\$171,500	73%		5
Baldwin, Town of	Time Warner Cable	East Baldwin	44		\$32,847	\$21,847	67%		5
Baldwin, Town of	Time Warner Cable	West Baldwin	45		\$101,691	\$90,441	89%		5
Cornerstone Comm.		Charleston	84		\$225,190	\$146,374	65%	Bradford Road	5
Hiram, Town of	Time Warner Cable	Hiram - North	82		\$187,392	\$166,892	89%		5
Hiram, Town of	Time Warner Cable	Hiram - South	52		\$79,796	\$65,946	83%		5
Island Telephone Co./TDS	Isle Au Haut	Isle Au Haut	16		\$64,140	\$51,312	80%		5
North Country BB		Abbot	215		\$285,648	\$191,384	67%	PCB & Cornerstone Comm.	5
North Country BB		Shirley	199		\$260,090	\$174,260	67%	PCB & Cornerstone Comm.	5
Orrington, Town of	Time Warner Cable	Orrington	38		\$56,353	\$46,854	83%	Sean Trahan	5
Oxford County Tel & Tel.		Sumner, Turner, No. Turner	238		\$336,888	\$168,444	50%		5
Oxford West		Bethel, No. Norway, W. Bethel	265		\$349,250	\$174,625	50%		5
Premium Choice BB		Long Pond	75		\$15,298	\$7,649	50%		5
Premium Choice BB		East Hancock	325		\$39,698	\$19,849	50%	Schoodic Mtn.	5
Premium Choice BB		Ebeemee	150		\$26,788	\$13,394	50%		5
Premium Choice BB		Gouldsboro	72		\$25,798	\$12,899	50%		5
Totals			32,025		\$12,289,220	\$5,197,866	42%	Number of Grants	58